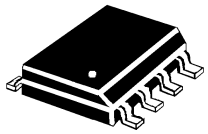
查询USB6B供应商

Microsemi

8700 E. Thomas Road
Scottsdale, AZ 85252
Tel: (480) 941-6300
Fax: (480) 947-1503

# USB6B1

## TVSarrayÔ Series



## DESCRIPTION (500 watt)

This TRANSIENT VOLTAGE SUPPRESSOR (TVS) array is packaged in a SO-8 configuration giving protection to one pair of Bidirectional data lines and the Vbus. It is designed for use in applications where protection is required at the board level from voltage transients caused by electrostatic discharge (ESD) as defined in IEC 1000-4-2, electrical fast transients (EFT) per IEC 1000-4-4 and effects of secondary lighting.

These TVS arrays have a peak power rating of 500 watts for an 8/20µsec pulse. This array is designed for protection of sensitive circuitry consisting of **UNIVERSAL SERIAL BUS (USB)** I/O transceivers.

The capacitance between the I/O data lines are minimal too ensure no significant signal distortion or loss at the 12 Megabit or greater data rate. This feature allows full compatibility with USB port standards.

## FEATURES

- 500 watt Peak Pulse Power protection at 8/20 µsec threat.
- Protects each data line and between Vbus supply and ground
- Complies with MIL STD 883C Method 3015.7 class 3
- Protection Per IEC 1000-4-2, IEC 1000-4-4
- Provides electrically isolated protection
- **ULTRA LOW CAPACITANCE 5 pF line to ground**
- **ULTRA LOW CAPACITANCE 3.5 pF line to line**
- **ULTRA LOW STANDBY CURRENT**

## MECHANICAL

- Molded SO-8 Packaging
- Lead solder temperature (10 sec duration) 260ºC
- Weight: 0.066 grams (approximate)
- Marked with logo and marking code
- Pin 1 indicated by dot on top of package
- Encapsulation meets UL 94V-0

## PACKAGING

- Tape & Reel EIA Standard 481-1-A
- 13 inch reel 2,500, pieces (OPTIONAL)
- Carrier tubes 95 pcs per (STANDARD)

## MAXIMUM RATINGS

- Operating Temperatures: -55$^0$C to +150$^0$C
- Storage Temperature: -55$^0$C to +150$^0$C
- Peak Pulse Power: 500 Watts (8/20 µsec, Figure 1 and 2)
- Pulse Repetition Rate: <.01%

**ELECTRICAL CHARACTERISTICS PER LINE @ 25$^0$C Unless otherwise specified**

| PART NUMBER | DEVICE MARKING | STAND OFF VOLTAGE $V_{WM}$ VOLTS | BREAKDOWN VOLTAGE $V_{BR}$ @1 mA VOLTS | CLAMPING VOLTAGE $V_C$ @ 1 Amp (FIGURE 2) VOLTS | CLAMPING VOLTAGE $V_C$ @ 5 Amp (FIGURE 2) VOLTS | STANDBY CURRENT $I_D$ @ $V_{WM}$ µA | CAPACITANCE (f=1 MHz) @0V C Data + To Data - pF | TEMPERATURE COEFFICIENT of $V_{BR}$ $á_{V(BR)}$ mV/°C |
|---|---|---|---|---|---|---|---|---|
| | | MAX | MIN | MAX | MAX | MAX | TYP | MAX |
| USB6B1 | USB6 | 5.0 | 6.0 | 9.8 | 18 | 5 | 15 | 3 |

# WAVE FORMS

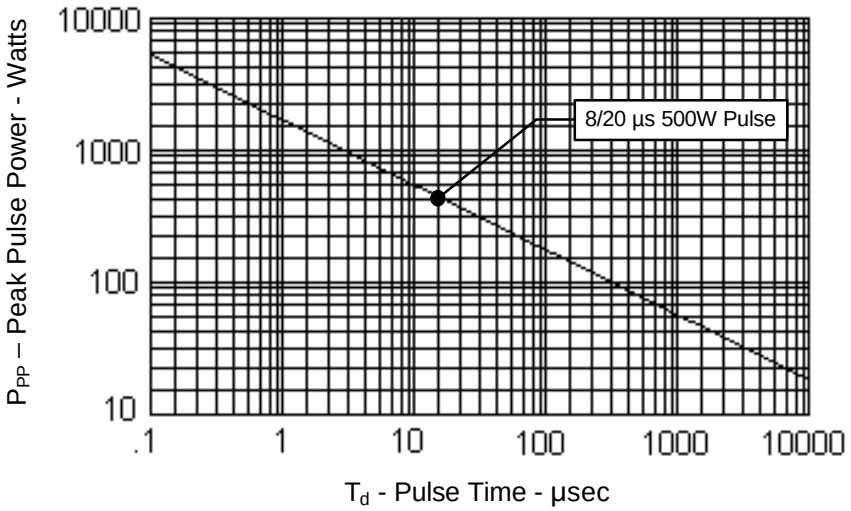



**FIGURE 1**
**Peak Pulse Power Vs Pulse Time**

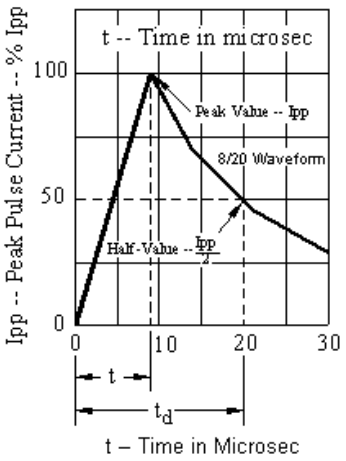
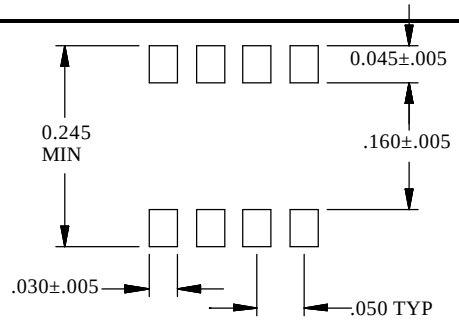
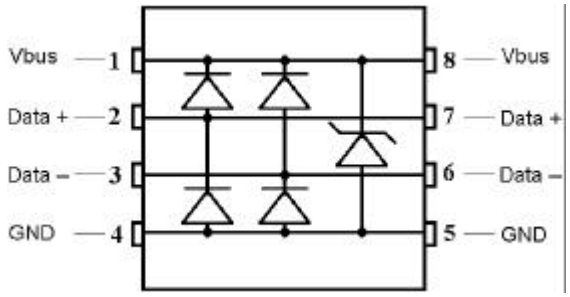



**FIGURE 2**
**Pulse Wave Form**

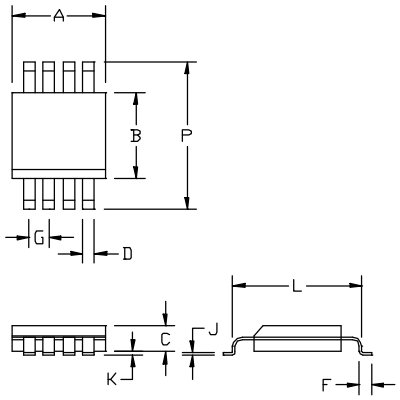
## MOUNTING PAD S0-8




## CIRCUIT DIAGRAM




## S0-8 PACKAGE




| | INCHES | | MILLIMETERS | |
|---|---|---|---|---|
| DIM | MIN | MAX | MIN | MAX |
| A | 0.188 | 0.197 | 4.77 | 5.00 |
| B | 0.150 | 0.158 | 3.81 | 4.01 |
| C | 0.053 | 0.069 | 1.35 | 1.75 |
| D | 0.011 | 0.021 | 0.28 | 0.53 |
| F | 0.016 | 0.050 | 0.41 | 1.27 |
| G | 0.050 BSC | | 1.27 BSC | |
| J | 0.006 | 0.010 | 0.15 | 0.25 |
| K | 0.004 | 0.008 | 0.10 | 0.20 |
| L | 0.189 | 0.206 | 4.80 | 5.23 |
| P | 0.228 | 0.244 | 5.79 | 6.19 |